

X-ray Microtomography as a Nondestructive Tool for Characterization of Plasma Sprayed Deposits	X27A
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Computed Microtomography (CMT) using synchrotron x-ray sources have been used to nondestructively image microstructural 3-D features in materials systems. Free-standing plasma sprayed alumina deposits were imaged using synchrotron x-ray CMT at 2.7 micrometer resolution. The gray scale images with bimodal population (grain and void space) were computed based upon 3-D medial axis analysis of void space. From analysis of medial axis, we obtained porosity, the pore size distribution and the distribution of disconnected void volumes. These results have been found to be in good agreement with mercury intrusion porosimetry data. Information on pore orientation has been obtained by moment-of-inertia measurements.